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Towards Comprehensive Training

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Abstract: Training programs are the most common active labor market interventions around the world. Whether designed to develop skills of young job seekers or upgrading skills of adult workers, training programs are aimed at counteracting employability barriers that hinder the integration of people into the labor markets. Training approaches vary greatly across countries and regions. Some have a focus on classroom lectures while others emphasize training in the workplace. Based on a dataset of studies of training programs from 90 countries around the world, this paper examines the incidence of different training types over time and their impact on labor market outcomes of trainees. We find a general pattern of transition from in-classroom training to comprehensive measures that combine classroom and workplace training with supplementary services. Moreover, this transition has paid off. Comprehensive training interventions tend to increase the probability of having positive labor market outcomes for trainees, as compared to in-classroom training only.

JEL Classification: J00, J68.

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I. INTRODUCTION

Training is the most dominant active labor market measure implemented worldwide to develop skills among workers of all ages. Recent studies have suggested an underlying trend from vocational training to more comprehensive approaches. Others have highlighted a transition pattern from supply to demand-oriented programs with increasing private sector participation. Despite the large wealth of information on training, little has been documented on its evolution over time. In particular, it has not been made clear whether these are patterns of change witnessed all over the world or if they have only occurred under specific country and labor market contexts. This paper aims to respond to this question by performing an overview analysis of training interventions implemented over the last five decades in all regions of the world. In addition, the analysis takes advantage of rich impact evaluation evidence to identify what appears to work in terms of enhancing human capital and improving employment conditions of trainees. We use a meta-analytical framework that combines information on program impact, program characteristics, and country context. It employs a probability model to measure the likelihood of obtaining positive impacts on employment and earnings of trainees.

The paper uses data from a set of 345 studies of training programs from 90 countries around the world. The review of these studies benefited greatly from the information gathered by the recent overview studies, research papers, and publications on the topic. In order to capture the evolution of programs and identify the types of training that bring about program success we identify a typology of programs on the basis of training content and setting. The typology consists of four training types: (i) in-classroom training programs; (ii) workplace training; (iii) the interaction of the previous two types, i.e., programs that provide training in classroom ‘and’ in the workplace; and (iv) even more inclusive programs that provide in-classroom and workplace training plus supplementary services such as counseling and mentoring, monitoring, job search and placement assistance, and soft and life skills training.

Based on the aforementioned typology, a descriptive analysis of the data shows a general pattern of transition from ‘in-classroom only’ towards combined measures of in-classroom, workplace training, and other supplementary services. This transition towards a comprehensive type of training, however, has occurred differently across regions. Latin America and the Caribbean is the best example of a transitioning region. It exhibits a clear trend from a supply-driven training provided by public institutions

in a classroom setting to a modern demand-driven training that combines in-classroom with other training types and support services. Within the OECD area, a particular distinction can be made between Anglo-Saxon and Continental European countries.¹ While the former relied heavily on comprehensive training approaches over the years, the latter have a well established base of classroom vocational training and a rather recent move towards broader services. As a result, despite marked differences in their social protection assistance approach, there is an increasing convergence towards comprehensive active labor market programs across OECD countries.

A rigorous analysis of evaluated programs shows that the transition towards comprehensive training does in fact pay off by increasing the likelihood of program success. The meta-analysis indicates that programs that combine different training approaches have a higher probability of positive labor market impacts on employment and/or earnings outcomes of trainees. In particular, the interaction of in-classroom and workplace training increases the likelihood of positive labor market impacts by 30 percentage points, as compared to in-classroom training alone. When this interaction is combined with other services, the probability of a positive impact increases by 53 percentage points, with respect to classroom training only. In addition to general findings, the meta-analysis highlights an important deficit in impact evaluation and cost-benefit analyses. This is particularly relevant since the absence of rigorous evaluations may lead to an overestimation of program impacts and misguide policy decisions.

The paper is organized as follows: Section II reviews the literature of overview studies of active labor market measures, drawing attention to impacts of training programs. It outlines the objectives of the paper and its added value to the existing body of research. Section III introduces the training typology and summarizes key training facts based on the evidence from 345 studies of training programs. Section IV describes the evolution of training programs over the years and examines particular transitions across regions. Section V addresses the question of what works and what determines program success. It introduces the probabilistic model and presents the main results of the meta-analysis. Conclusions are drawn in Section VI.

¹ Anglo-Saxon countries in this analysis are Canada, the U.S., Ireland, the U.K, Australia, and New Zealand. Continental European countries are Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Portugal, Finland, Spain, Sweden, and Switzerland.

II. BACKGROUND

Training programs are the most popular measure to enhance human capital among employed and unemployed people of all ages. As such, they have been regularly documented and evaluated by governments and researchers, particularly in developed economies where there is a long-standing tradition in the design and implementation of impact evaluations and where the sustainability of publicly-funded programs relies greatly on evaluation outcomes. Despite the wealth of information on individual programs, the number of rigorous impact evaluations is relatively small as is the availability of overview studies that compare labor market impacts across programs, countries, and program types. This evaluation deficit is a significant burden in the analysis of what works in active labor market programming. This section reviews the literature of overview studies of ALMPs, drawing attention to labor market impacts of training-related programs. It first describes research done at the global level and then discusses regional and country studies. In addition, the section explains what the added value of this paper is and how it contributes to the identification of what appears to work in terms of improving employment outcomes through skills training interventions.

The body of research on *global impacts* of ALMPs is rather small. Betcherman et al. (2004) and Dar and Tzannatos (1999) took stock of the worldwide evaluation evidence on ALMPs with a focus on developing and transition countries. Both overview studies review different training measures, in particular training for the unemployed, retraining for workers in mass layoffs, and youth training programs. Besides stressing the importance of improving the quality of the evaluation, their results indicate positive effects of combining classroom with on-the-job training for the unemployed as well as a comprehensive package of employment services to accompany the retraining of laid off workers. Youth training programs often had negative impacts on labor market outcomes, emphasizing the importance of early and sustained interventions to reduce school dropouts and improve educational attainment.

Betcherman et al. (2007) built on the previous studies and put together a large sample of ALMPs implemented around the world with a focus on young people, i.e., the Youth Employment Inventory (YEI). A descriptive analysis of the YEI shows an increasing incidence of positive impacts from programs that offer multiple services, i.e., combinations of vocational training, job and/or life-skills training, job search assistance, entrepreneurial services, and a range of other social and employment-related support services. A more rigorous look at the YEI's data shows no statistically significant difference of program

type on program impact (Puerto 2007). This finding suggests that the decision on what type of program should be used must be based on the specific employment barriers that need to be overcome.

Regional studies on the impact of ALMPs are mainly restricted to developed economies, given the extent of evaluation evidence available. Martin and Grubb (2001) provide a summary of previous evaluations as well as a descriptive analysis of programs implemented in OECD countries. They highlight the importance of on-the-job training components in public training programs, as well as tight targeting, small scale, links with local employers, and skills certification schemes.

More rigorous regional analyses were undertaken by Heckman et al. (1999), Kluve and Schmidt (2002), and Kluve (2006). Based on a sample of evaluation studies of ALMPs implemented in Europe and the U.S. before 1994, Heckman et al. (1999) observed the impacts of job training, job search assistance, and wage subsidies programs on employability. Their work shows very modest positive impacts of employment and training programs on adult earnings that fade away quickly when long-term data are taken into account. Overall post-program gains result from higher employment probability rather than increased earnings. Outcomes from youth employment and training programs are mainly null and sometimes negative, especially in the U.S. The paper also examines the large heterogeneity in evaluation methods across countries and, particularly, between the much less developed evaluation evidence of Europe as compared to the U.S.²

Kluve and Schmidt (2002) collected a sizable sample of impact evaluations of European programs implemented between 1983 and 1999, and compared their results to the U.S. programs previously studied by Heckman et al. (1999). Their overview analysis suggests mixed program effects across categories of intervention and target population: While training and job search assistance may effectively improve participants' labor market prospects, direct job creation programs in the public sector may lead to negative gains and hinder employability of some target groups. Young workers were the most difficult group to assist among the unemployed.

Drawing on previous studies, Kluve (2006) set a meta-analytical framework to estimate the probability of success, in terms of positive treatment effects on employment, of ALMPs in Europe, with special attention to programs implemented in the late nineties and in the 2000s. The sample consists of training

² When drawing methodological lessons, the authors suggest there is not an optimal method of choice for conducting program evaluations, i.e., experimental and non-experimental methods as well as other econometric techniques may be – in general – equally convenient to measure labor market impacts so long as the quality of the underlying data is ensured.

programs, private sector incentive programs (e.g., wage subsidies), direct employment programs in the public sector (e.g., public works programs), and services and sanctions (e.g., job search assistance and compulsory programs to maintain unemployment benefits). Results indicate that among all explanatory variables, the type of program is the only clear determinant of the probability of having positive employment effects, ruling out the potential effects of the evaluation method and country-context factors. Training programs appear to increase the probability of success relative to direct employment programs in the public sector, but are less likely to do so when compared to private sector incentive and services and sanctions programs.³

Systematic *within country, cross-program* comparisons are observed in the work of Greenberg et al. (2003) for government-sponsored training programs implemented in the U.S. since the early sixties. Greenberg et al. (2003) use a meta-analysis to measure the impact on post-programs earnings of trainees and classify training as: classroom skills training, basic education training, the combination of the previous two categories, on-the-job training, subsidized work training, and a mix of all previous categories. Their results indicate larger earnings effects for women than men, and insignificant for youth. Across training types, classroom skills training courses yield positive impacts on earnings when compared to basic education training. Other training types do not show robust significance.⁴

This paper addresses the gap in overview studies of ALMPs and contributes to the above-mentioned body of literature with a thorough examination of the evolution and determinants of success of skills training programs. In particular, it captures and illustrates the transition from vocational to comprehensive training and shows the benefits of this transition in terms of improving the labor market prospects of trainees.

The meta-analytical approach used here draws on Betcherman et al. (2007) and Kluve (2006), with some variations in model specification and the distinction that we focus specifically on skills training interventions. Concerning the data, the paper uses recent evidence on the impacts of training programs as well as information from earlier stocktaking initiatives creating a dataset of 345 studies of training-

³ Relative to training programs, the probability model indicates significantly higher returns from private sector incentive programs and services and sanctions programs: they increase the likelihood of positive labor market impacts in 40 to 50 percentage points more than training programs do. On the other hand, public sector employment programs are 30 to 40 percent less likely to yield positive impacts than training programs. On specific target groups, the model indicated that youths are still the hardest population to assist, reducing the probability of positive employment impacts by 40 to 60 percentage points.

⁴ Speckesser (2004) provides comprehensive evaluation evidence on ALMPs implemented in Germany since the seventies.

related interventions. This is the largest and up-to-date sample of training programs, compared to previous studies and particularly so given our focus on training. The quality of the evaluation evidence varies from net impact evaluations, with comparisons across treatment and control groups, to evaluations with basic information and gross outcomes.

III. FACTS

Training measures appear as a government response to counteract unemployment and employability barriers. These barriers are primarily associated to mismatches between the skills demanded by employers and those that the labor supply has. Accordingly, most active labor market training programs impart occupational technical skills that are at times combined with non-technical skills, financial incentives, and other services. Training can be delivered in a classroom setting, in the workplace, or both. These content-setting characteristics allow us to identify the typology of training programs that will be used in the remaining of the paper to analyze the evolution of training programs over the years as well as the determinants of program success.

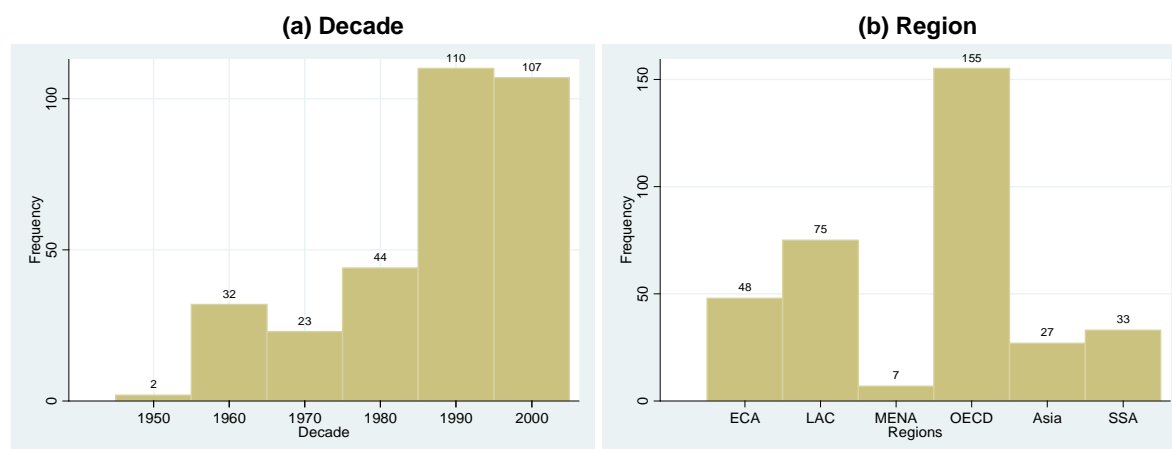
This section introduces the training typology and summarizes key facts based on the evidence from 345 studies of training-related interventions and the body of literature discussed in Section II. As mentioned before, the sample of 345 observations consists of studies of training programs with a diverse quality of evaluation, from basic information to impact evaluation with cost-benefit analyses. This is an important caveat to consider when drawing and interpreting information and findings from these studies.

FACT 1: Training programs are the most popular ALMPs. Several overview studies of ALMPs have highlighted the high frequency of training programs compared to other measures such as employment services, wage/employment subsidies, public works, and entrepreneurship schemes. For instance, skills training programs are the most popular interventions to support young workers in the YEI, amounting to 38 percent (111 out of 289) of the inventory. Similarly, 52 percent (45 out of 87) evaluation studies of ALMPs analyzed by Betcherman et al. (2004) assessed the impact of training programs.

FACT 2: The availability of information on training programs has increased over time. Evidence from the 345 studies of training programs reviewed for this analysis indicates that, for the last five decades, information and documentation of programs did not systematically occur until the early nineties. As displayed in Figure 1a, 63 percent of the studies in our sample (217 out of 345) relate to programs implemented during and after 1990. Earlier programs – that started implementation before 1990 – are characteristic of OECD countries, reflecting their long-standing tradition of investments in skills development and program evaluations.

FACT 3: In addition and correlated to the time dimension, the availability of information on training programs varies greatly by region. The sample coverage across regions indicates that most evidence belongs to programs in OECD countries and Latin America and the Caribbean (LAC), with 45 and 22 percent of the interventions, respectively (Figure 1b).

Figure 1. Coverage of the Training Inventory by Decade and Region



Note: Figure 1a shows the decade when a particular program began. Missing values have been excluded.
Source: Authors.

FACT 4: Training approaches vary greatly across programs and countries. They can be specific or comprehensive in content and set in different environments, from classroom to workplace training. In terms of content, most programs focus on counteracting technical skills mismatches and provide training on specific trades and occupations, such as construction, carpentry, mechanics, management, information and technology, and others. Most programs are delivered in a classroom setting, though this varies depending on the type of skills and the program design. In several cases, classroom training is complemented by on-the-job training in a theory-plus-practice fashion. Other programs have opted for a comprehensive approach in content and in addition to technical skills offer other set of skills and services that will support the transition of trainees to work and enhance their social and interpersonal skills and job-readiness. These non-technical skills consist of numeracy, literacy, soft and life skills.⁵ Additional services involve counseling, mentoring, job search assistance, and other.

⁵ According to UNICEF, life skills refers to a large group of psycho-social and interpersonal skills which can help people make informed decisions, communicate effectively, and develop coping and self-management skills that may help them lead a healthy and productive life. Life skills may be directed toward personal actions and actions toward others, as well as actions to change the surrounding environment to make it conducive to health.

We explore these content-setting characteristics to establish the typology of training programs, displayed in Table 1. In a systematic way, this classification first distinguishes programs that offer only one type of service (Types 1 and 2) and subsequently identifies possible interactions between types:

- **Type 1** comprises **in-classroom training** programs that deliver vocational and occupational skills on different trades.
- **Type 2** depicts **workplace training** programs such as internships, on-the-job training, and work experience programs. Type 2 training may also include apprenticeship systems, where trainees work directly with employers or master craftsmen and public works programs that provide training-by-doing opportunities.
- **Type 3** consists of the interaction of the previous two types, i.e., programs that provide training **both in the classroom and in the workplace** as a theory-plus-practice approach.
- **Type 4** includes programs that add up to the theory-plus-practice approach of Type 3 by providing other supplementary services, i.e., **in-classroom and workplace training combined PLUS other services**. These services include counseling, mentoring and monitoring, job search and placement assistance, training on soft and life skills, and financial incentives.⁶

Table 1 also shows the distribution of training types in the sample of 345 studies. The most popular training types are in-classroom (Type 1) and the comprehensive interaction of in-classroom, workplace training, and other services (Type 4); they account for 37 and 29 percent, respectively. While the other two types have a lower incidence, they are fairly well represented in the sample with 15 and 19 percent respectively for Types 2 and 3.

⁶ Stipends, reimbursement, and transportation vouchers represent some of the financial incentives offered to trainees for the duration of the program. Evidence of these services includes the Summer Youth Employment and Training program (SYETP) and Job Corps in the United States; Employability Improvement Program in Canada; *Juventud y Empleo* in the Dominican Republic; and *Proyecto Joven* in Argentina.

Table 1. Typology of Training Programs

Training Types		Coverage	%
Type 1	In-classroom training only	129	37%
Type 2	Workplace training only	53	15%
Type 3	In-classroom and workplace training combined	64	19%
Type 4	In-classroom and workplace training combined PLUS other services	99	29%
Total		345	100%

Source: Authors.

FACT 5: Training types vary significantly by region, as shown in Table 2. OECD countries tend to have a diverse portfolio of programs with a primary focus on in-classroom training. However, a glance at the composition of training types across OECD countries shows important differences between European and Anglo-Saxon countries. While Types 1 and 2 are common in continental European countries (with programs dating as early as 1960), Anglo-Saxon countries have a more inclusive approach (Types 3 and 4), combining classroom, on-the job training, and other active measures.⁷

Programs in Latin America rely mainly on comprehensive approaches, i.e., Types 3 and 4. This fact results from significant investments on multi-service youth employment and training programs developed throughout the region since the early nineties. Evidence on Type 1 (in-classroom training) in LAC features the traditional training approach provided by public training institutions to workers of all ages since the late fifties.

In East and Central Asia (ECA), programs are fairly distributed across training types. Most programs focus on classroom training, with evaluations available since the early nineties.⁸ Other regions, i.e., Sub-Saharan Africa (SSA), Asia (including South Asia, and East Asia and the Pacific), and Middle East and North Africa (MENA), have much less evidence in general, though it is possible to spot a relatively high incidence of in-classroom training programs. Available information in these regions is rather new, with evaluations studies carried out mainly in the nineties and 2000s.

⁷ In the U.S., for instance, national training programs have provided multiple services to unemployed workers by combining classroom and on-the-job training with other supplementary and support services. These programs have been carried out since the early sixties, with the Manpower Development and Training Act and subsequently with other acts and training demonstrations, including the Comprehensive Employment and Training Act (seventies), the Job Training Partnership Act (eighties), and the Workforce Investment Act (nineties).

⁸ ECA underwent a sudden leap of impact evaluations in the nineties largely as a result of major evaluation efforts by the World Bank to assess the labor market impacts of a set of employment programs. These evaluations account for a significant share of the relatively small ECA sample.

Table 2. Training Types by Region
(Absolute Values and Percentages)

Training Types		OECD	LAC	ECA	SSA	Asia	MENA	Total
Type 1	In-classroom training only	59	10	19	14	22	5	129
Type 2	Workplace training only	33		13	4	2	1	53
Type 3	In-classroom and workplace training combined	33	12	9	6	3	1	64
Type 4	In-classroom and workplace training combined PLUS other services	30	53	7	9			99
Total		155	75	48	33	27	7	345

Percentage of Studies by Program Type in Each Region

Type 1	In-classroom training only	38%	13%	40%	42%	81%	71%	37%
Type 2	Workplace training only	21%	0%	27%	12%	7%	14%	15%
Type 3	In-classroom and workplace training combined	21%	16%	19%	18%	11%	14%	19%
Type 4	In-classroom and workplace training combined PLUS other services	19%	71%	15%	27%	0%	0%	29%
Total		100%	100%	100%	100%	100%	100%	100%

Percentage of Studies by Region in Each Program Type

Type 1	In-classroom training only	46%	8%	15%	11%	17%	4%	100%
Type 2	Workplace training only	62%	0%	25%	8%	4%	2%	100%
Type 3	In-classroom and workplace training combined	52%	19%	14%	9%	5%	2%	100%
Type 4	In-classroom and workplace training combined PLUS other services	30%	54%	7%	9%	0%	0%	100%
Total		45%	22%	14%	10%	8%	2%	100%

Source: Authors.

FACT 6: Governments are active suppliers of training either through direct provision or financing. Public provision is generally offered by big national training institutions, centrally or locally managed. These institutions provide occupational training programs for unemployed and employed workers, as part of the ALMP and skills upgrading strategies of the government, respectively. Governments are also the largest training investors. In OECD countries, for example, government spending on training has the highest share among all ALMPs, reaching over one fourth of total public ALMP spending in recent decades (OECD 2006). Program financing can take the form of wage/employment subsidies, training vouchers, and training funds. As displayed in Table 3, about 61 percent of observations in our sample (212 out of 345) belong to publicly-financed training programs. Thirty percent are funded by partnerships that often involve governments, bi/multi-lateral institutions, and donors (102 out of 345).

Table 3. Training Types by Source of Finance
(Absolute Values and Percentages)

Training Types		Source of Finance					Total
		Government	Employers	NGOs	Mix	NA	
Type 1	In-classroom training only	85	2	7	28	7	129
Type 2	Workplace training only	38	6		9		53
Type 3	In-classroom and workplace training combined	41	4	4	14	1	64
Type 4	In-classroom and workplace training combined PLUS other services	48			51		99
Total		212	12	11	102	8	345

Percentage of Studies by Region in Each Program Type							
Type 1	In-classroom training only	66%	2%	5%	22%	5%	100%
Type 2	Workplace training only	72%	11%	0%	17%	0%	100%
Type 3	In-classroom and workplace training combined	64%	6%	6%	22%	2%	100%
Type 4	In-classroom and workplace training combined PLUS other services	48%	0%	0%	52%	0%	100%
Total		61%	3%	3%	30%	2%	100%

Source: Authors.

FACT 7: Increasingly, the private sector is participating in training services, particularly as regards to content, provision, and financing. Public-private partnerships have opened pathways for private sector participation in the design and implementation of social protection programs. Private training institutions and NGOs have played significant roles in this process by supporting government efforts to train disadvantaged workers.

Private firms can be actively involved in the definition of training courses. The need for providing relevant training has called for demand-driven approaches that facilitate the matching between the skills employers demand and those delivered by training programs. Demand-driven approaches rely on strong participation of employers in the definition of training content. The suggestions of employers are collected through surveys designed and applied by program administrators or public officials.

A second area for private firm participation is training provision. Competitive schemes of training provision allow for private training providers to compete for the delivery of courses. Accordingly, program administrators select training institutions through a public bidding system. Selection criteria involve technical quality of the proposal (e.g., course content and defined on-the-job training opportunities for trainees), costs, experience, human resources, financial management, and solvency (Nopo et al. 2002). According to Dar (2008), public funding can encourage private provision of longer

(e.g., secondary) technical-vocational programs. For instance, in Chile, about 28 percent of enrollment in secondary technical vocational programs was private in 1980; by 1993 and as a result of a new funding formula, this ratio had doubled. Private provision requires government commitment and adequate regulations to avoid the risk of public provision crowding out private supply.

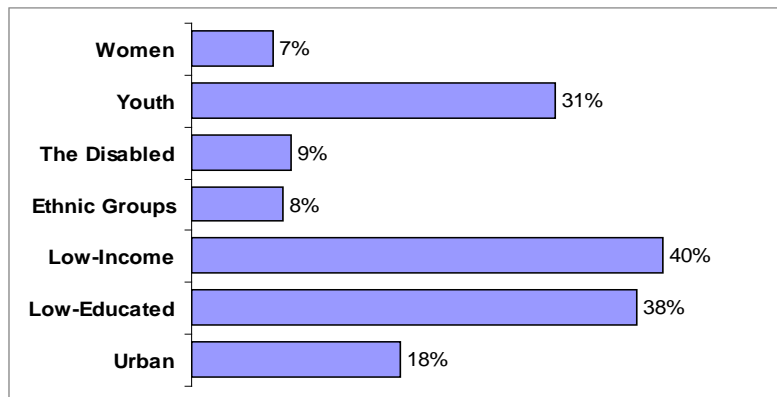
Another face of private training provision is in-service (or workplace) training. In-service training initiatives, such as internships, on-the-job training, and apprenticeship systems, encourage employers to participate as direct trainers. Their involvement ensures a demand-driven approach and provides greater chances for trainees to be employed upon program completion. For instance, most training services of the *Projovent* Program in Peru were provided by enterprises that agreed to hire 80 percent of the training participants after a period of on-the-job training.

The third area of private sector participation is the financing of training programs. Some governments have relied on payroll levies as a way to obtain private resources to finance training programs. Dar et al. (2003) discuss the evidence on two types of payroll levies for training financing: the revenue-generating scheme (in which firms are taxed to generate revenues to finance training provided by the public sector) and the levy-grant or levy-rebate scheme (in which in-plant training provision is encouraged by providing firms with training incentives such as tax exemptions, training cost reimbursement, or conditional grants). According to Table 3, only 3 percent of the programs studied for this paper rely on employer funding.⁹

FACT 8: Training programs can be targeted on very specific socioeconomic or demographic groups or can be more broadly targeted towards all unemployed. Most programs in the sample show a large focus on training the unemployed. Specific demographic characteristics and geographical location do not appear to be very decisive. Figure 2 illustrates the orientation of the programs toward specific disadvantaged groups. Income and level of education seem to play a role as targeting criteria for training programs, though no more than half of the programs have a particular orientation towards these groups.

⁹ Dar (2008) indicates that successful initiatives to encourage workplace training recognize that financial incentives, such as levy-rebate schemes or tax incentives, have limited impact on increasing training quantity and that it is important to involve employers in the design of these schemes and ensure administrative transparency.

Figure 2. Percentage of Training Programs Targeting Disadvantaged Groups



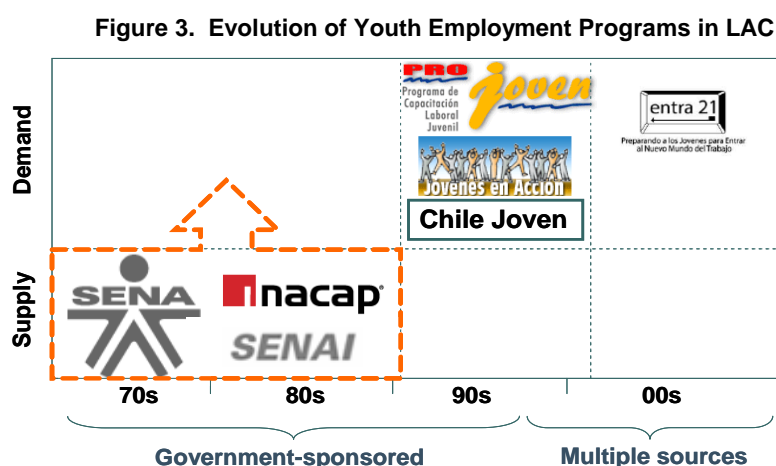
Note: Taken from the subsample of programs with net impact evaluations.

Source: Authors.

Appropriate targeting methods in training programs are particularly crucial to reach very disadvantaged populations and to minimize the risk of creaming. Potential targeting methods include self-selection, categorical/group selection, and individual assessment (e.g., proxy means tests). Successful targeting also entails well-designed recruitment strategies. *Chile Joven*, for instance, organized a massive campaign advertising the courses in selected municipalities. Interested youth approached the local employment offices where they filled in a targeting questionnaire to determine their socioeconomic status and eligibility. Interviews were also useful to check if applicants matched the objective profile.

IV. TRENDS: EVOLUTION OF TRAINING

As governments explore different ways to tackle employment and skills barriers, training programs adapt and evolve in numerous dimensions. Figure 3 illustrates the evolution of youth employment and training programs in LAC since the seventies, with particular attention to drivers of training and financing sources. Early programs relied generally on a state-managed and supply-driven model that offered specialized training and retraining in a classroom setting through centralized public providers. Training institutions received public funding as well as private contributions through payroll taxes. The model was pretty much abandoned in the eighties along with the import substitution process (de Moura Castro et al. 1998). Some big public training institutions survived and continue providing training services on specific trades often on a lower scale. The model was pretty much abandoned in the eighties along with the import substitution process (de Moura Castro et al. 1998). Some big public training institutions survived and continue providing training services on specific trades often on a lower scale.



Source: Authors.

In the early nineties, youth employment and training programs transitioned to a demand-driven model sponsored primarily by the government. This model began with the *Jóvenes* Programs, an active labor market measure first applied in Chile and soon after replicated in Argentina, Uruguay, Paraguay, Peru, Colombia, Dominican Republic and Venezuela. The programs were aimed at targeting economically disadvantaged youth, fostering private sector participation, and promoting competition among training providers. This transition introduced a comprehensive training type – from technical to life skills and from lectures to internships – accompanied by sound support services and financial incentives. Some estimated impacts of the programs are shown in Table 4. More recent initiatives in the region have steered training financing towards multiple sources. In a demand-driven fashion, *Entra 21* Programs

have maintained the comprehensive training type of earlier programs on a lower scale while involving other stakeholders and sponsors.

Table 4. Jóvenes Programs in LAC: Impact and Cost-Effectiveness

Country	Impact on Employment	Impact on Earnings	Cost-Benefit Analysis
Argentina Proyecto Joven	10% (women)	10% (monthly wages)	NPV > 0 if 12 years of positive benefits (DR = 5%)
Chile Chile Joven	21% (<21 years, women)	26%	NA
Colombia Jóvenes en Acción	5% (women)	18% - 35% (men - women)	IRR = 4.5% - 13.5% (men - women)
Dominican Rep. Juventud y Empleo	Not significant	10%	NPV > 0 if 2 years of positive benefits (DR = infl.)
Peru ProJoven	6% (placement)	18% (hourly)	NPV > 0 if 7 years of positive benefits (DR = 5%). IRR > 4%

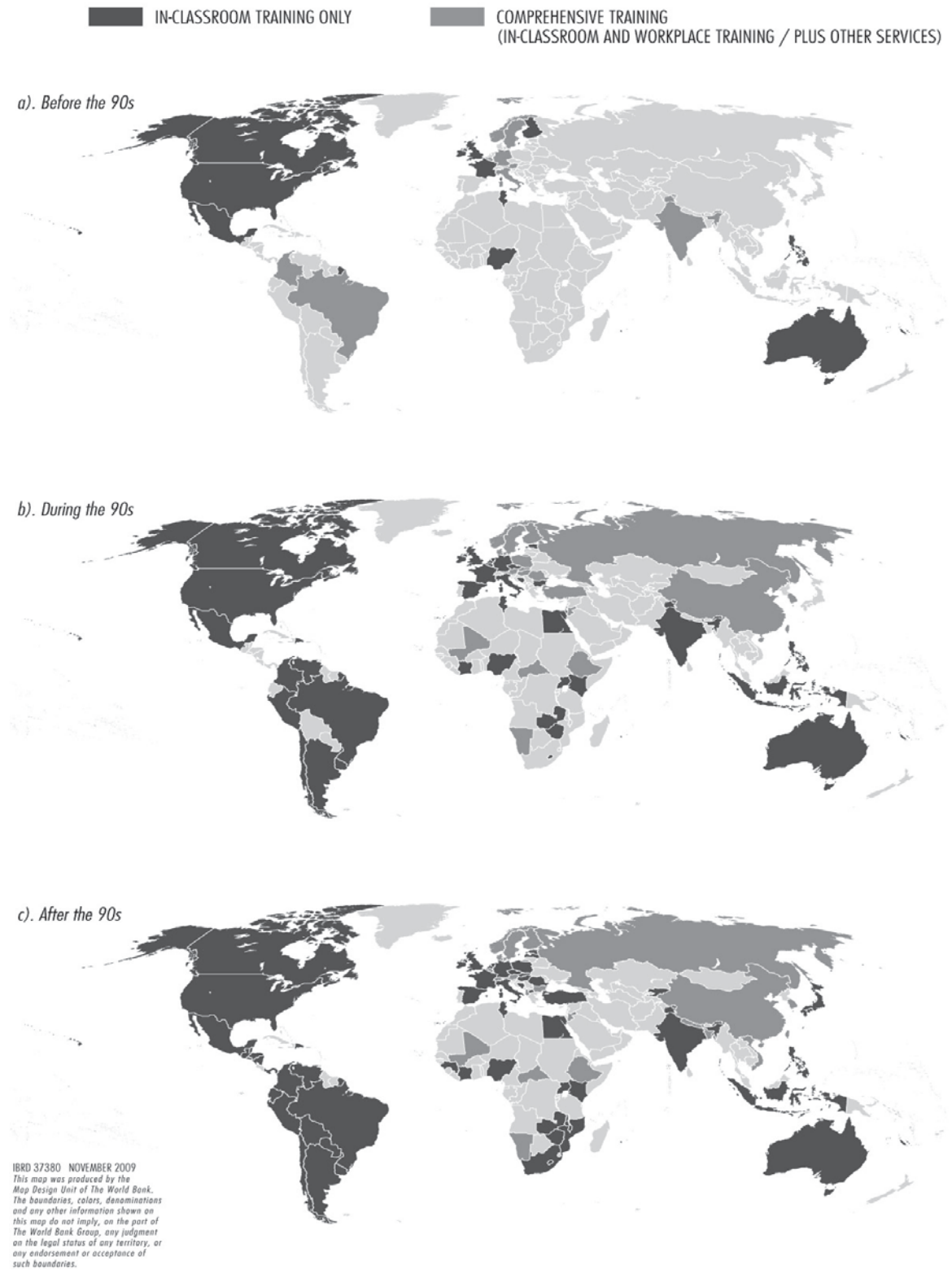
Notes: NPV: Net Present Value; DR: Discount Rate; IRR: Internal Rate of Return.

Sources: Aedo and Nuñez (2001), Aedo and Pizarro (2004), Attanasio et al. (2007), Card et al. (2006), Díaz and Jaramillo (2006), Elías et al. (2004), and Nopo et al. (2002).

The case of LAC gives an idea of how dynamically governments approach employment and skills development challenges. A key underlying pattern shows a transition from in-classroom to more comprehensive training types (i.e., from Type 1 to Types 3-4, as defined in the previous section), displayed in **Error! Reference source not found.** The maps in the figure offer an overall picture of what has been ‘predominantly’ used to improve job skills during the last decades. While there is a general pattern of transition from in-classroom to more comprehensive services, the transition has occurred differently across regions.

In the OECD region, countries have used several training approaches. Key differences can be drawn between Anglo-Saxon and Continental European countries. While the former have had a heavy reliance on comprehensive approaches over the years, the latter have a well established base of in-classroom vocational training and a rather recent move towards broader services. For instance, the U.S., Canada, U.K., and Australia have exhibited a constant trend of comprehensive training programs since the eighties (and before). On the other hand, Italy, Austria, the Nordics, and Germany – to a certain extent – had an early focus on in-classroom training (in particular when assisting unemployed adults and displaced workers) and recent convergence towards combined measures of in-classroom and workplace training (e.g., young people assisted by the German Dual System).

Figure 4. From In-Classroom to Comprehensive Training



Source: Authors.

V. IMPACT

What explains the evolution of training programs towards more comprehensive ones? Is this transition supported by evidence on the outcomes of the programs? Several papers document the effect of specific training programs on different types of trainees' employment and earnings outcome measures. The result on the effectiveness of these programs varies. In most countries, there is limited impact of classroom training, while in other countries more recent evidence supports comprehensive training programs.

Given this heterogeneity and the difficulties of comparing across programs and countries, a more systematic approach to understand what programs work and under what conditions is needed. This section uses the database on training programs and their evaluations to (i) describe successful training programs and (ii) use a standard multiple regression technique to obtain a quantitative assessment of the factors associated with the success or failure of training programs.¹⁰

5.1 Descriptive Analysis of Training Programs

Several issues need to be addressed in defining the measure of success of a program. The literature on evaluation has focused on employment and earnings of participants as the primary performance indicators considered in establishing this measure of the effects of the program. Other indicators are also important, including measures for unemployment, productivity, and employability. Some of these indicators are very hard to measure, either conceptually (how to define employability?), or due to the lack of enough information (e.g., earnings for the self-employed). Also, important time lags might take place before the effect of interventions is felt, so the assessment needs to take that into account as well. Once these issues are addressed, defining success and the methods used to evaluate training is possible.

5.1.1 *How Can Success Be Defined?*

Let Quality of Intervention (*QOI*) be the measure of program effectiveness. The *QOI* rating of an intervention i is defined as follows:

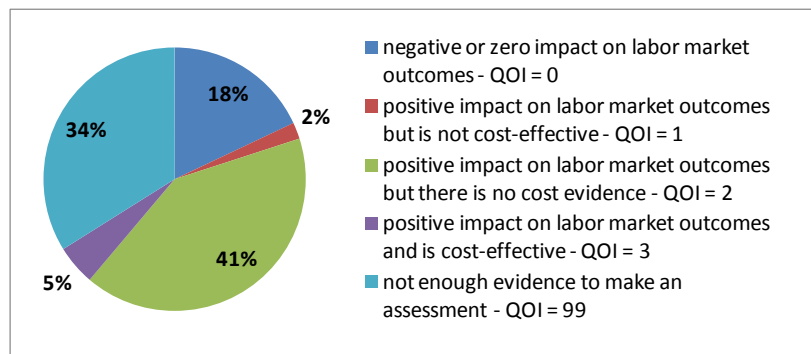
¹⁰ The methodology used in this section follows closely the methodology developed in Kluve and Schmidt (2002) and Betcherman et al. (2007).

$$QOI_i = \begin{cases} 0 & \text{if negative or zero impact on labor market outcomes} \\ 1 & \text{if positive impact on labor market outcomes but is not cost-effective} \\ 2 & \text{if positive impact on labor market outcomes but there is no cost evidence} \\ 3 & \text{if positive impact on labor market outcomes and is cost-effective} \\ 99 & \text{if not enough evidence to make an assessment} \end{cases}$$

The *QOI* is a function of labor market outcomes and cost effectiveness of the intervention. Because this paper uses other studies and reports, the indicators of labor market outcomes are those used in the existing reports and can vary across studies. For example, while a 2003 evaluation of Job Corps in the U.S. uses earnings gains as a performance indicator, a publicly-sponsored further-training program in Germany is assessed by the transition rate from unemployment or training to (stable and unstable) employment (Schochet et al. 2003 and Kraus et al. 1999).

Of the total 345 interventions in the available database, about 18 percent were found to have negative or no impact on labor market outcomes ($QOI = 0$); about 41 percent have positive impact, but with no evidence on cost effectiveness ($QOI = 2$); and, only 5 percent of the interventions have positive impact and are cost effective ($QOI = 3$). The remaining 34 percent did not have enough evidence to make an assessment, as displayed in Figure 4.

Figure 5. Distribution of the Quality of Interventions



Source: Authors.

5.1.2 What Are the Evaluation Methods Used to Determine Success?

Training is the most evaluated active labor market program; however, the quality of the evaluations varies significantly. Since the early seventies, the U.S. began a series of well-designed impact evaluations in order to assess the effectiveness of public training programs (national and demonstrations) and decide accordingly on their financial and political sustainability. These evaluations

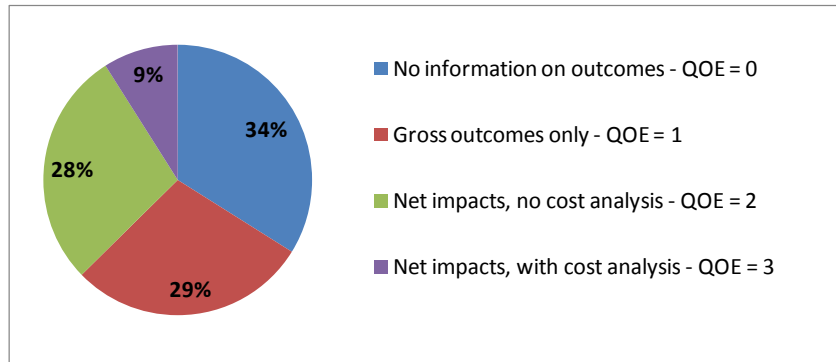
motivated a wave of research on alternative methodologies to better-design an impact evaluation and estimate post-program outcomes. These techniques focused on identifying what would have happened to trainees had they not been trained by comparing outcomes for control and treatment groups. The use of these techniques have become more common in other countries in Europe and years later in developing regions and have served as the base for the design of impact evaluations of ALMPs and other social assistance interventions.

Let Quality of Evaluation (QOE) be the measure of evaluation used to determine program effectiveness. The QOE rating of an intervention i is defined as follows:

$$QOE_i = \begin{cases} 0 & \text{if no evaluation information available on outcomes or impact} \\ 1 & \text{if information on gross outcomes of the intervention without} \\ & \text{considering net effects.} \\ 2 & \text{if estimate of net impact using control groups to measure} \\ & \text{impact but no cost - benefit analysis.} \\ 3 & \text{if net impact plus cost - benefit analysis} \end{cases}$$

Despite the popularity of impact evaluations, only 37 percent of the studies documented by the inventory have net impact estimates. These are post-program outcomes of program participants measured against a proper counterfactual group of non-participants. Figure 5 shows the coverage by ratings on quality of evaluation (QOE). In 117 out of 345 interventions, there was no information on outcomes and therefore insufficient evidence to make an assessment on the quality of the intervention. These observations were accordingly rated as $QOE = 0$. About one third of the studies provided evaluation evidence on gross outcomes, i.e., without considering net impacts ($QOE = 1$), and nearly 37 percent of the interventions did consider net impact estimates ($QOE = 2$ and 3). Cost-benefit analyses estimating the net gains from the programs are available in 31 out of the 345 cases.

Figure 6. Distribution of the Quality of Evaluations

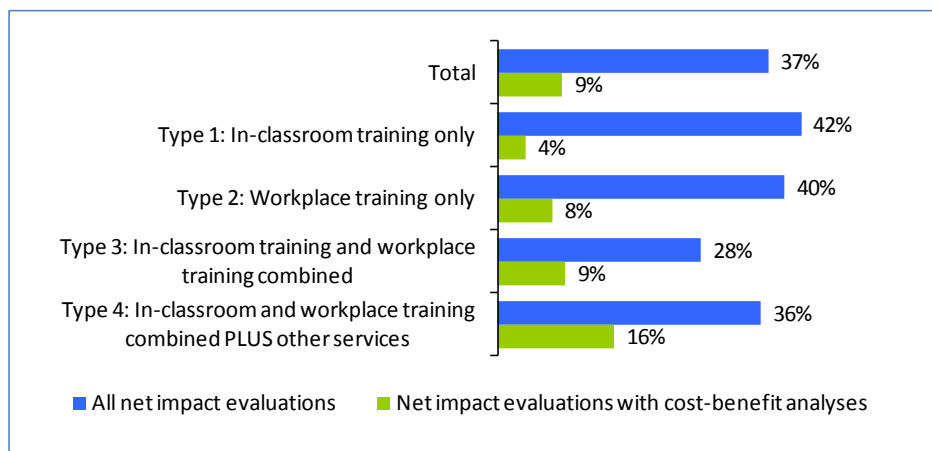


Source: Authors.

The quality of evaluation evidence varies by region and type of program. The incidence of net impact evaluations is greater in OECD countries (with 86 out of 155 studies using control groups), followed by ECA (16 out of 48), and LAC (23 out 75). Early evaluation efforts in the U.S. and subsequently in Canada and the U.K. give Anglo-Saxon countries the highest record on program evaluation. Cost-effectiveness analyses are in general scarce with higher incidence in middle income countries of LAC and ECA. This is likely due to the efforts from multilateral organizations – such as the World Bank and the IADB – in designing impact evaluations that can effectively measure the success of programs.

Across training types, the incidence of net impact evaluations varies from 42 percent in Type 1 to 28 percent in Type 3 programs. About 36 percent of the studies of the most comprehensive programs (Type 4) have an impact evaluation, while cost-benefit analyses are only available in 16 cases, out of 99 Type 4 programs (Figure 6).

Figure 7. Percentage of Programs with Net Impact Evaluations by Type of Training



Source: Authors.

Lack of evaluation evidence is a serious issue because assessment of the quality of the intervention varies by quality of evaluation. Table 5 cross-tabulates ratings on quality of intervention (*QOI*) and *QOE*. In 228 out of 345 interventions, there was enough evidence to make an assessment on *QOI* and the interventions were accordingly rated as *QOI* = 0 to 3 (see blue-shaded area in Table 5). When only gross outcomes are available (*QOE* = 1), the *QOI* assessment shows very positive impacts on the performance indicators of trainees, with nearly 90 percent of studies under *QOI* = 2. However, when net impact evaluations are taken into account (*QOE* = 2 and 3), the rate of positive outcomes falls to 60 percent. This suggests that the absence of rigorous evaluations may lead to an overestimation of program impacts.

Table 5. Quality of Intervention and Quality of Evaluation

Quality of Evaluation	Quality of Intervention					Total
	0	1	2	3	99	
0					117	117
1	10		89			99
2	45		53			98
3	7	7		17		31
Total	62	7	142	17	117	345

Note: See rating on quality of intervention and evaluation above.

The blue-shaded area consists of 228 studies where a *QOI* assessment could be made.

Source: Authors.

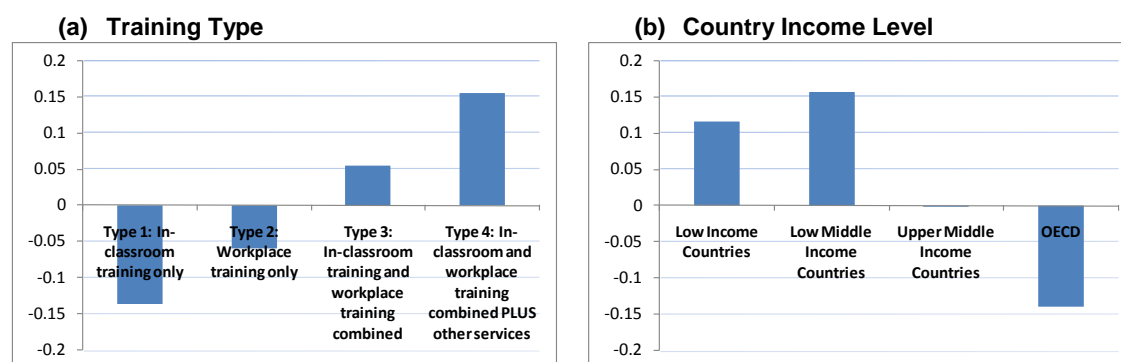
While impact evaluations facilitate the assessment of the program's impact on the labor market prospects of trainees, only a cost-benefit analysis can give an idea of program success. *Successful interventions are those that yield a positive labor market impact and are, at the same time, cost-effective.* This definition applies only when *QOI* = 3. Of the 228 studies with enough evidence to assess *QOI*, 73 percent (166) have a positive labor market impact. Of these, only 17 (10 percent) were successful. In other words, the observed rate of success derived from program evaluations is 7 percent (17 out of 228). A simulation exercise of the overall success rate of the interventions, which tries to overcome the lack of cost-benefit analyses, shows that two out of five impact evaluations (*QOE* = 2 and

3) feature successful training programs that were able to improve the labor market performance indicators of trainees in a cost-effective manner.¹¹

Reported successful interventions vary with the type of training. Figure 7a shows the correlations between the reported success of a program and its type. While the correlation between the success measure ($QOI = 3$) and the incidence of comprehensive training, which includes a combination of classroom, workplace training, and other services, is positive, the estimated correlation between success and in-classroom training only is negative.

Reported program success also varies by country level of income. In general, the evidence indicates that incidence of success of training programs is less likely in OECD countries, while non OECD countries seems to have higher reported incidence of success (Figure 7b)

Figure 8. Variation of Reported Success by Training Type and Country Income Level



Source: Authors.

5.2 Meta-Analysis: Model Specification

The objective of the analysis is to understand what determines the probability of reporting positive labor market impacts of a training program. We use a simple model that maps the occurrence of positive labor market impacts against training type, controlling for the program-specific

¹¹ This exercise constrains the data to the sample of studies where an assessment on intervention quality could be done (this is the blue-shaded area in Table 5) and assumes that programs without cost information have the same probability of being cost effective as programs with cost information. For further details see Betcherman et al. (2007).

characteristics, country context, and the quality of the evaluation.¹² The fact that we are focusing on impact constrains the sample of analysis to impact evaluation studies, i.e., $QOE = 2, 3$.

Define Y_{it} as the reported measure of impact of an intervention i at time t . The variable Y_{it} is a binary variable that takes value 1 when the evaluation reported positive labor market effects in beneficiaries (i.e., $QOI = 1, 2$, or 3 ; which occurs in 77 out of 129 cases) and value 0 otherwise (i.e., $QOI = 0$, in the remaining 52 cases). This variable offers no consideration on cost-effectiveness and does not take into account the quality of evaluation (QOE).

$$y_{it} = \beta X_{it} + \varepsilon_{it}$$

X_{it} is a vector of exogenous variables that include: (i) training type, (ii) specific characteristics of the program, (iii) economic/workforce and institutional country context, and (iv) characteristics of the labor supply. In addition to these variables, we use the time period covered by each evaluation to control for time-fixed effects.

- Training types are introduced in the model to estimate the likelihood of positive impacts across different approaches. In particular, we will compare how in-classroom training does with respect to the other training types.
- Specific characteristics of the program refer mainly to the features of the target population and sources of financing. In regard to targeting, the model takes into account the programs' specific focus on youth, women, the disabled, specific ethnic groups, as well as low-income and low-educated people. Dummy variables were created for each target group to test whether focalization strategies on the most disadvantaged allow better outcomes.
- Economic country characteristics include a measure of country income level that differentiates between low and low-middle income countries (generally developing and transition countries) and

¹² The estimation uses a probit model that estimates the probability of an event as a function of a set of attributes, assuming a normal distribution in the data. In the probit model, a scalar dependent variable y_t is a binary variable, $y_t \in \{0, 1\}$. The conditional probability of y_t is:

$$\begin{cases} f(y_t = 1 | \mathbf{x}_t; \beta_0) = \Phi(\mathbf{x}_t' \beta_0), \\ f(y_t = 0 | \mathbf{x}_t; \beta_0) = 1 - \Phi(\mathbf{x}_t' \beta_0), \end{cases}$$

where $\Phi(\cdot)$ is the cumulative density function of the standard normal distribution.

upper-middle income and OECD countries. The effect of this measure is controlled by GDP growth and unemployment rate computed as the average of the five years prior the evaluation period. Institutional country context characteristics comprise a measure of employment rigidity that gives an idea of the effect of employment regulations flexibility on training outcomes. The rigidity of employment index – a Doing Business Indicator – is a composite measure of difficulty of hiring and firing and rigidity of hours. The higher the index, the more stringent the labor market regulations are.

- Finally, the labor supply is characterized by the gross enrolment rates in primary and secondary education.

5.3 Meta-Analysis: Empirical Results

Table 6 shows the results of four model specifications based on the sample of impact evaluation studies and controlling for time-fixed effects. Marginal effects and z-statistics are displayed for each variable. These *marginal effects report the change in the probability of a positive program impact for an infinitesimal change in each independent continuous variable or for a discrete change in the case of dummy variables*.¹³ Model 1 shows the effects of training types alone, the other models display the effects of other independent variables from program to country characteristics.

The different specifications consistently show that programs that offer combined training types along with other services report a higher probability of positive impacts on the labor market prospects of trainees as compared to in-classroom training alone. In other words, the more comprehensive the training, the higher the chances of yielding positive impacts. The marginal effect coefficients imply that programs that combine in-classroom with workplace training increase the likelihood of positive impacts by 21-37 percentage points, while programs that offer this combination plus additional services increase the probability in 44-55 percentage points, with respect to in-classroom training.

¹³ The computation of marginal effects fits maximum-likelihood probit models, where the maximum-likelihood estimator of β_0 is given by the function $m(\mathbf{w}_t; \boldsymbol{\beta}) = \log f(y_t | \mathbf{x}_t; \boldsymbol{\beta}) = y_t \log \Phi(\mathbf{x}_t' \boldsymbol{\beta}) + (1 - y_t) \log [1 - \Phi(\mathbf{x}_t' \boldsymbol{\beta})]$, where \mathbf{w}_t is the t-th observation in the dataset. The models' estimated coefficients on which the marginal effects are based are presented in the Annex, Table A.x. A logit model was also estimated to test whether a logistic distribution better fitted the data than a normal distribution. The logit regression reported very similar estimates than the probit. Results are shown in the Annex, Table A.x

Program characteristics are rather less determinant. Only two targeting variables appear to have a consistent effect on the probability of positive impacts: first, programs that target primarily young people display lower chances of creating positive impacts compared to programs that target adults or workers in general. In fact, the marginal effect indicates that training for youth reduces the probability of positive impacts by nearly 30 percentage points, as compare to the omitted category. This result is consistent with findings from Kluve (2006), Betcherman et al. (2004), and Heckman et al. (1999) when examining overall ALMPs focusing on youth.

Table 6. Probit Models Reporting Marginal Effects of Training Programs

	Model 1	Model 2	Model 3	Model 4
Type of Training (a)				
Workplace Training Only	0.072 (0.57)	0.120 (0.86)	0.245 (1.83) *	0.253 (1.81) *
Classroom and Workplace Training Combined	0.209 (1.57)	0.286 (2.09) **	0.350 (2.66) ***	0.370 (2.67) ***
Classroom and Workplace Training Combined PLUS other services	0.440 (3.88) ***	0.505 (3.87) ***	0.535 (4.22) ***	0.553 (4.00) ***
Specific Characteristics of the Program				
Targeting				
Program targets primarily youth (b)		-0.295 (-2.13) **	-0.309 (-2.08) **	-0.307 (-2.02) **
Program targets only urban areas (c)		0.016 (0.1)	-0.317 (-1.35)	-0.292 (-1.28)
Program targets women		-0.135 (-0.63)	-0.417 (-1.65) *	-0.411 (-1.58)
Program targets disabled		-0.061 (-0.29)	-0.135 (-0.58)	-0.099 (-0.43)
Program targets ethnic minorities		0.267 (1.76) *	0.276 (1.97) **	0.303 (2.13) **
Program targets low-income people		0.043 (0.26)	0.002 (0.01)	-0.023 (-0.12)
Program targets low-educated people		0.194 (1.38)	0.198 (1.15)	0.195 (1.07)
Financing				
Government-sponsored (d)		0.334 (1.55)	0.314 (1.22)	0.324 (1.25)
Economic Country Context				
Upper-middle income countries (e)			-0.610 (-2.02) **	-0.623 (-2.08) **
OECD countries (e)			-0.718	-0.735

	Model 1	Model 2	Model 3	Model 4
Rigidity of employment			(-2.52) ** 0.003 (0.85)	(-2.57) *** 0.003 (1.11)
GDP growth (5-years average before evaluated period)			0.073 (1.92) *	0.075 (1.98) **
Unemployment rate (5-years average before evaluated period)				0.052 (-1.29)
Unemployment rate squared				-0.277 (0.84)
Characteristics of the Labor Supply				
Gross enrollment rate in primary (%)			-0.024 (-1.58)	-0.027 (-1.69) *
Gross enrollment rate in secondary (%)			0.008 (1.21)	0.008 (1.11)
Time-Fixed Effects (f)				
Year of evaluation 80-84	0.325 (1.54)	0.392 (2.31) **	0.353 (2.65) ***	0.372 (2.72) ***
Year of evaluation 85-89	0.401 (2.63) ***	0.512 (3.45) ***	0.511 (3.21) ***	0.534 (3.24) ***
Year of evaluation 90-94	0.477 (2.97) ***	0.602 (3.49) ***	0.628 (2.76) ***	0.661 (2.82) ***
Year of evaluation 95-99	0.522 (3.34) ***	0.647 (3.89) ***	0.616 (2.54) **	0.643 (2.56) **
Year of evaluation 2000-	0.272 (1.49)	0.402 (2.37) **	0.333 (1.28)	0.360 (1.35)
Observations	129	129	129	129
Pseudo R2	0.147	0.21	0.2913	0.2951
LR chi2	25.6	36.44	50.68	51.33
Prob > chi2	0.001	0.003	0.0005	0.001

Notes: a. The omitted type is in-classroom training programs. b. The omitted category is programs targeting adults or workers of all ages. c. The omitted category is programs in rural areas and programs with national coverage (both rural and urban). d. The omitted category is programs where the government was not the primary source of financing. e. The omitted category is programs in low income and low-middle income countries. f. The omitted category period covers programs implemented before 1980.

The values of the z-statistics are reported below the marginal effect coefficient: * significant at 10%; ** significant at 5%; *** significant at 1%.

Source: Authors.

Second, programs that target specific ethnic minorities, such as training programs for African Americans in the U.S., have a higher probability of positive outcomes than programs without this particular focus. They increase the likelihood of positive impacts by 26-30 percentage points. This finding is consistent with Greenberg et al. (2003).

The set of economic country context variables has a highly significant effect on program impact. The models show that controlling by GDP growth and unemployment (level and squared) prior to the evaluation period, training programs are more effective in low and low-middle income countries than in rich economies. The likelihood of success is between 61-73 percentage points higher when the program is implemented in a low income setting than otherwise. This finding is consistent with Betcherman et al. (2007). Given that the quality of evaluation is controlled for, this result cannot be explained by the fact that impact evidence is more rigorous in high income countries. Another possible explanation, which cannot be tested here, is that the skills disadvantage of participants in developed countries may often be too large to be overcome by these programs; while in developing countries where skills are scarcer, programs may provide enough of a boost to make a measurable difference.

The rigidity of employment and the characteristics of the labor supply, on the other hand, do not seem to explain the probability of positive labor market impacts.

VI. CONCLUSIONS

Training is the most dominant active labor market measure implemented worldwide to develop skills among workers of all ages. Accordingly, there is a significant number of studies that have evaluated the success of the programs in terms of improving employment and earnings of trainees. With this information we have created a database of 345 studies that resembles an inventory of training interventions. The database includes programs that offer skills training of four types: (i) in-classroom training programs; (ii) workplace training; (iii) the interaction of the previous two types, i.e., programs that provide training in classroom ‘and’ in the workplace; and (iv) more comprehensive programs that provide in-classroom and workplace training plus supplementary services such as counseling and mentoring, monitoring, job search and placement assistance, and soft and life skills training.

A worldwide transition from in-classroom towards more comprehensive training types is evident particularly in Latin America and the OECD countries. This transition is proved to benefit trainees, particularly in low income countries, where the interaction of in-classroom and workplace training combined with other supplementary services shows an increase in the probability of having positive labor market outcomes, as compared to in-classroom training only. Combined training types are able to increase the likelihood of positive impacts by at least 20 percentage points, as shown in Table 6.

While this finding is based on comparable data from net impact evaluations, the overall lack of evaluations constrained the analysis to nearly one third of the sample (i.e., 129 out of 345 studies). Program evaluation thus needs to be enhanced to improve knowledge on what works to address employment barriers through skills training. Better evaluation evidence is particularly important because the quality of the interventions vary by the quality of the evaluations. Studies with proper impact evaluations tend to show less optimistic outcomes than studies with basic information on gross outcomes. This suggests that the absence of rigorous evaluations may lead to an overestimation of program impacts and misguide policy decisions.

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ANNEX

Table A.1: Number of studies by region and by type of evaluation

Region	Study without impact evaluation	Study with impact evaluation	Total number of studies per region
Europe & Central Asia	32	16	48
Latin America & Caribbean	52	23	75
Middle East & North Africa	7		7
OECD	69	86	155
South and East Asia & Pacific	25	2	27
Sub-Saharan Africa	31	2	33
Grand Total	216	129	345

Table A.2: Number of studies by country and by type of evaluation

Country	Study without impact evaluation	Study with impact evaluation	Total number of studies per country
Albania	2		2
Argentina	5	4	9
Australia	11		11
Austria	5	3	8
Bangladesh	1		1
Belgium	2	1	3
Belize	1		1
Bolivia	1		1
Bosnia and Herzegovina	2	1	3
Brazil	9	2	11
Bulgaria	6	2	8
Burundi	1		1
Canada	11	4	15
Central African Republic	1		1
Chile	5	3	8
China	3		3
Colombia	7	3	10
Cote d'Ivoire	1		1
Czech Republic		2	2
Denmark	1	5	6
Dominican Republic	3	1	4
Ecuador	1		1
Egypt, Arab Rep.	2		2
El Salvador	4		4
Estonia	1	1	2

Country	Study without impact evaluation	Study with impact evaluation	Total number of studies per country
Ethiopia	1		1
Finland	1	4	5
France	1	5	6
Germany	2	14	16
Guatemala	1		1
Guinea	1		1
Honduras	2		2
Hong Kong, China	2	1	3
Hungary	2	1	3
India	8		8
Indonesia	1		1
Ireland	2		2
Italy	8		8
Japan	2		2
Jordan	1		1
Kenya	2	1	3
Korea, Rep.		1	1
Kosovo	1		1
Kyrgyz Republic	1		1
Latvia	1		1
Lebanon	2		2
Lesotho	1		1
Macedonia, FYR	1		1
Malawi	2		2
Maldives	1		1
Mali	1		1
Mexico	2	3	5
Micronesia, Fed. Sts.	1		1
Mozambique	1		1
Namibia	2		2
Nepal	2		2
Netherlands	2		2
New Zealand	1		1
Nicaragua	1		1
Nigeria	1		1
Norway		8	8
Panama	1	1	2
Paraguay	1		1
Peru	3	5	8
Philippines	3		3
Poland	2	4	6
Portugal	1		1
Romania	1	2	3
Russian Federation		2	2
Rwanda	2		2

Country	Study without impact evaluation	Study with impact evaluation	Total number of studies per country
Samoa	1		1
Senegal	1		1
Slovak Republic	3		3
South Africa	6		6
Spain	1	1	2
Sri Lanka	1		1
Sweden		13	13
Switzerland		1	1
Togo	1		1
Tunisia	1		1
Turkey	9	1	10
Uganda	3	1	4
United Kingdom	3	4	7
United States	15	23	38
Uruguay	3	1	4
Venezuela, RB	2		2
Vietnam	1		1
West Bank and Gaza	1		1
Zambia	1		1
Zimbabwe	2		2
Grand Total	216	129	345

Table A.3: Number of studies by age targeting and by type of evaluation

Age Target Group	Study without impact evaluation	Study with impact evaluation	Total number of studies per age target group
Targeting primarily young people	184	40	224
Targeting both young and adults	24	27	51
Targeting primarily adults	8	62	70
Grand Total	216	129	345

Table A.4: Number of studies by program location and by type of evaluation

Location	Study without impact evaluation	Study with impact evaluation	Total number of studies per location
Urban areas	71	23	94
Rural areas	25	2	27
Both, urban and rural areas	120	104	224
Grand Total	216	129	345

Table A.5: Number of studies by program's gender targeting and by type of evaluation

Gender	Study without impact evaluation	Study with impact evaluation	Total number of studies per gender target
Programs designed to target women	39	9	48
Programs offered to both women and men	166	119	285
Programs designed to target for men	2	1	3
Unknown targeting criteria with respect to gender	9		9
Grand Total	216	129	345

Table A.6: Number of studies by program's target towards disabled people and by type of evaluation

Targeting towards disabled people	Study without impact evaluation	Study with impact evaluation	Total number of studies per disability target
Programs that target specially disabled people	25	11	36
Programs that target disabled people among others	120	118	238
Unknown targeting criteria with respect to disability	71		71
Grand Total	216	129	345

Table A.7: Number of studies by program's target towards specific ethnic groups and by type of evaluation

Targeting towards ethnic groups	Study without impact evaluation	Study with impact evaluation	Total number of studies per ethnic target
Programs that target specifically ethnic groups	19	10	29
Programs that target ethnic groups among other groups	146	119	265
Unknown targeting criteria with respect to ethnicity	51		51
Grand Total	216	129	345

Table A.8: Number of studies by program's targeting by income level and by type of evaluation

Targeting by income level	Study without impact evaluation	Study with impact evaluation	Total number of studies per income level target
Programs that target specifically individuals with low income	104	52	156
Programs that target low income individuals as well as people with other income levels	77	77	154
Unknown targeting criteria with respect to income level	35		35
Grand Total	216	129	345

Table A.9: Number of studies by program's targeting by education level and by type of evaluation

Gender	Study without impact evaluation	Study with impact evaluation	Total number of studies per education level target
Programs that target specifically low educated individuals	95	49	144
Programs that target low educated individuals as well as people with other education levels	88	80	168
Programs that target specifically educated individuals	10		10
Unknown targeting criteria with respect to education level	23		23
Grand Total	216	129	345

Table A.10: Number of studies by program's primary source of financing and by type of evaluation

Program primary source of financing	Study without impact evaluation	Study with impact evaluation	Total number of studies per source of financing
Government	93	119	212
Employers	10	2	12
NGOs	11		11
Mixed sources	94	8	102
Unknown	8		8
Grand Total	216	129	345

Table A.11: Number of studies by country level of development and income and by type of evaluation

Level of Development	Study without impact evaluation	Study with impact evaluation	Total number of studies per level of development
Developing	124	27	151
Industrialized	69	87	156
Transition	23	15	38
Grand Total	216	129	345
Level of Income	Study without impact evaluation	Study with impact evaluation	Total number of studies per income level
Low income	38	2	40
Middle income	109	40	149
OECD	69	87	156
Grand Total	216	129	345

Table A.12: Programs with impact evaluations by country

Country	Program Name	Studies per program and country
Argentina	ProEmpleo	1
	Proyecto Joven	3
Argentina Total		4
Austria	Comparing Job Search and Training	1
	Manpower Training Programs in Austria	1
	Steel Foundation	1
Austria Total		3
Belgium	Vocational Training in Wallonia	1
Belgium Total		1
Bosnia and Herzegovina	Emergency Demobilization and Reintegration Project (EDRP)	1
Bosnia and Herzegovina Total		1
Brazil	PLANFOR - National Plan of Professional Education	1
	Programa Primeiro Emprego - Rio Grande do Sul	1
Brazil Total		2
Bulgaria	Government's Re/Trainings: with Guaranteed & Non-guaranteed Jobs	1
	Government's Self-employment Programme	1
Bulgaria Total		2
Canada	Comparing 5 Training Programs	1
	Cooperative Education Option	1
	Employability Improvement Program (EIP)	1
	Youth Service Canada (YSC)	1
Canada Total		4
Chile	Chile Joven	3
Chile Total		3
Colombia	Jovenes en Accion (Youth in Action)	1
	Proyecto de Servicios Integrados para Jovenes	1
	Servicio Nacional de Aprendizaje (SENA)	1
Colombia Total		3
Czech Republic	Government ALMs: Re/Training Program	1
	Government ALPs: Wage Subsidy	1
Czech Republic Total		2
Denmark	ALMPs	2
	Training programs	1
	Vocational Education	1
	Youth Unemployment Programme (YUP)	1
Denmark Total		5
Dominican Republic	Programa Juventud y Empleo	1
Dominican Republic Total		1
Estonia	Training programs	1
Estonia Total		1
Finland	ALMPs	1
	Labor Market Training	2
	Youth Practical Training	1

Country	Program Name	Studies per program and country
Finland Total		4
France	Employment solidarity contract (contrat d'emploi solidarity CES)	1
	French Youth Employment Programs (1980's-1990's)	2
	Promotion of training programs in the private sector	1
	Retraining program for displaced workers: Program Convention de Conversion	1
France Total		5
Germany	Job Creation and Training - Evaluation [Labour Market Monitor Saxony-Anhalt]	2
	Publicly sponsored further training	3
	Training	3
	Training - continuous vocational training and retraining	1
	Training - further training	1
	Training in East Germany	1
	Training in East Germany CTRT	1
	Training in East Germany OJT	1
	Training in West Germany	1
Germany Total		14
Hong Kong, China	Employees Retraining Program	1
Hong Kong, China Total		1
Hungary	Government ALPs: Re/Training Program	1
Hungary Total		1
Kenya	Jua Kali - Voucher Programme/Training vouchers for "workers under the sun"	1
Kenya Total		1
Korea, Rep.	Training for the unemployed	1
Korea, Rep. Total		1
Mexico	PROBECAT	1
	Retraining Program on Employment and Wages (Probecat).	2
Mexico Total		3
Norway	Active Labor Market Programs for Youth in Norway	1
	ALMP for adults	1
	Comparing Employment and Training Programs	1
	Educational programs for disabled people	2
	Norwegian labour market training programme	2
	Trainee Places and Labour Market Training Courses (LMT)	1
Norway Total		8
Panama	PROCAJOVEN	1
Panama Total		1
Peru	Calificacion de jovenes creadores de microempresas - Certification of Youth Entrepreneurship	1
	Formacion empresarial de la juventud - Youth Entrepreneurship Program	1
	PROJoven	3
Peru Total		5
Poland	ALPs: Government Re/Training Program	1
	Comparing Training and Intervention Works	1

Country	Program Name	Studies per program and country
Poland Total	Public financed further training and retraining.	1
	Training for unemployed.	1
		4
Romania	ALMPs comparison Government (Public Employment Offices) Re-training Programs in Romania	1
Romania Total		2
Russian Federation	Government (Public Employment Offices) Re-training Programs in Russia	2
Russian Federation Total		2
Spain	National Plan for Training and Professional Insertion	1
Spain Total		1
Sweden	Classroom training services: Labor market training (AMU) and Labor market training (AMU)	1
	Comparing training and job creation programs	1
	Labor Market Training	2
	Labor Market Training Program in Sweden	2
	Selfemployment services - Selfemployment grants (SEMP)	1
	Subsidized on the job training: Subsidized employment (SUBE) and Trainee replacement scheme (TRS)	1
	Training replacement	1
	Training replacement.	1
	Vocational employment training program - AMU	1
	Wage and employment subsidies: Work placement scheme (API), Relief work (RW), and Work experience scheme (ALU)	1
	Youth Practice	1
	Sweden Total	13
Switzerland	ALMPs - Training	1
Switzerland Total		1
Turkey	Government Re/Training Program	1
Turkey Total		1
Uganda	Promotion of Children and Youth in Uganda (PCY)	1
Uganda Total		1
United Kingdom	Employment Training (ET) and Employment Action (EA).	1
	New Deal for the Young Unemployed	1
	Restart	1
	Training for Work	1
United Kingdom Total		4
United States	American Conservation and Youth Service Corps	1
	Comprehensive Employment and Training Act (CETA) Programs	3
	Job Corps	2
	Job Training Partnership Act - Title II-A (JTPA)	1
	Jobstart Demonstration	1
	Jobstart Demonstration - CET Project in San Jose	1
	Manpower Development and Training Act	1
	Meta-Analysis (sample of government-sponsored programs from 1962 to 1980)	1
	Meta-Analysis (sample of government-sponsored programs from 1962 to 2003)	1

Country	Program Name	Studies per program and country
	National Supported Work Demonstration	3
	New Chance Demonstration	1
	New Hope Project	1
	New Youth Initiatives in Apprenticeship	1
	Programs in the National Evaluation of Welfare-to-Work Strategies (NEWWS)	1
	Summer Youth Employment and Training Program (SYETP)	1
	The Metropolitan Re-Employment project (MRP)	1
	Workforce Development System.	1
	Youth Fair Chance	1
United States Total		23
Uruguay	Opcion Joven (Youth Option)	1
Uruguay Total		1
Grand Total		129

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Summary Findings

Training programs are the most common active labor market interventions around the world. Whether designed to develop skills of young job seekers or upgrading skills of adult workers, training programs are aimed at counteracting employability barriers that hinder the integration of people into the labor markets. Training approaches vary greatly across countries and regions. Some have a focus on classroom lectures while others emphasize training in the workplace. Based on a dataset of studies of training programs from 90 countries around the world, this paper examines the incidence of different training types over time and their impact on labor market outcomes of trainees. We find a general pattern of transition from in-classroom training to comprehensive measures that combine classroom and workplace training with supplementary services. Moreover, this transition has paid off. Comprehensive training interventions tend to increase the probability of having positive labor market outcomes for trainees, as compared to in-classroom training only.

HUMAN DEVELOPMENT NETWORK

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